TORQ Analysis of Machinists to Sawing Machine Setters, Operators, and Tenders, Wood

INPUT SECTION:

Transfer	Title	O*NET	Filters		
From Title:	Machinists	51-4041.00	Abilities:	Importance LeveL: 50	Weight: 1
To Title:	Sawing Machine Setters, Operators, and Tenders, Wood	51-7041.00	Skills:	Importance LeveL: 69	Weight: 1
Labor Market Area:	Maine Statewide		Knowledge:	Importance Level: 69	Weight: 1

OUTPUT SECTION:

Grand TORQ: 85

Ability TORQ		Skills TORQ		Knowledge TORQ	
Level	86	Level	89	Level	79

Gaps To Narrow if Possible

Ability	Level	Gap	Impt
Trunk Strength	41	4	53
Finger Dexterity	42	3	59

Upgrade These Skills

Skill	Level	Gap	Impt
No Skills Upgrade Required!			

Knowledge to Add

Knowledge	Level	Gap	Impt
No Knowledge Upgrades Required!			

LEVEL and IMPT (IMPORTANCE) refer to the Target Sawing Machine Setters, Operators, and Tenders, Wood. GAP refers to level difference between Machinists and Sawing Machine Setters, Operators, and Tenders, Wood.

ASK ANALYSIS

Ability Level Comparison - Abilities with importance scores over 50

Description	Machinists	Sawing Machine Setters, Operators, and Tenders, Wood	Importance
Arm-Hand Steadiness	55	48	72
Control Precision	57	50	72
Near Vision	57	46	62
Finger Dexterity	39	42	59
Oral Comprehension	57	48	56
Oral Expression	59	48	56
Manual Dexterity	55	42	56
Problem Sensitivity	55	42	53
Multilimb Coordination	51	46	53
Trunk Strength	37	41	53

Deductive Reasoning	57	39	50
Inductive Reasoning	53	39	50
Category Flexibility	41	41	50
Selective Attention	48	41	50
Rate Control	41	34	50
Speech Clarity	42	35	50

Skill Level Comparison - Abilities with importance scores over 69

Description	Machinists	Sawing Machine Setters, Operators, and Tenders, Wood	Importance
Operation and Control	77	53	71

Knowledge Level Comparison - Knowledge with importance scores over 69

Description	Machinists	Sawing Machine Setters, Operators, and Tenders, Wood	Importance

Experience & Education Comparison

Related Work Experience Comparison

Description	Machinists	Sawing Machine Setters, Operators, and Tenders, Wood
10+ years	0%	1%
8-10 years	0%	0%
6-8 years	2%	0%
4-6 years	46%	0%
2-4 years	4%	8%
1-2 years	16%	11%
6-12 months	1%	13%
3-6 months	1%	12%
1-3 months	1%	12%
0-1 month	0%	11%
None	24%	29%

Required Education Level Comparison

Description	Machinists	Sawing Machine Setters, Operators, and Tenders, Wood
Doctoral	0%	0%
Professional Degree	0%	0%
Post-Masters Cert	0%	0%
Master's Degree	0%	0%
Post-Bachelor Cert	0%	0%
Bachelors	0%	0%
AA or Equiv	14%	0%
Some College	2%	1%
Post-Secondary Certificate	12%	10%
High Scool Diploma or GED	69%	40%
No HSD or GED	1%	48%

Machinists	Sawing Machine Setters, Operators, and Tenders, Wood
Most Common Educational/Training Requirement:	
Long-term on-the-job training	Moderate-term on-the-job training
Job Zone Comparison	
3 - Job Zone Three: Medium Preparation Needed	2 - Job Zone Two: Some Preparation Needed
Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job.	Some previous work-related skill, knowledge, or experience may be helpful in these occupations, but usually is not needed. For example, a teller might benefit from experience working directly with the public, but an inexperienced person could still learn to be a teller with little difficulty.
Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree. Some may require a bachelor's degree.	These occupations usually require a high school diploma and may require some vocational training or job-related course work. In some cases, an associate's or bachelor's degree could be needed.

Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers.	Employees in these occupations need anywhere from a few months to one year of working with experienced employees.

Tasks

Machinists

Core Tasks

Generalized Work Activities:

- Controlling Machines and Processes - Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).
- Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
- Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.
- Handling and Moving Objects - Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things.
- Monitor Processes, Materials, or Surroundings - Monitoring and reviewing information from materials, events, or the environment, to detect or assess problems.

Specific Tasks

Occupation Specific Tasks:

- Advise clients about the materials being used for finished products.
- Align and secure holding fixtures, cutting tools, attachments, accessories, and materials onto machines.
- Calculate dimensions and tolerances using knowledge of mathematics and instruments such as micrometers and vernier calipers.
- Check work pieces to ensure that they are properly lubricated and cooled.
- Clean and lubricate machines, tools, and equipment to remove grease, rust, stains, and foreign matter.
- Confer with engineering, supervisory, and manufacturing personnel to exchange technical information.
- Confer with numerical control programmers to check and ensure that new programs or machinery will function properly, and that output will meet specifications.
- Design fixtures, tooling, and experimental parts to meet special engineering needs.
- Dismantle machines or equipment, using hand tools and power tools, to examine parts for defects and replace defective

Sawing Machine Setters, Operators, and Tenders, Wood

Core Tasks

Generalized Work Activities:

- Controlling Machines and Processes - Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).
- Handling and Moving Objects - Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things.
- Inspecting Equipment, Structures, or Material - Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.
- Performing General Physical Activities - Performing physical activities that require considerable use of your arms and legs and moving your whole body, such as climbing, lifting, balancing, walking, stooping, and handling of materials.
- Monitor Processes, Materials, or Surroundings - Monitoring and reviewing information from materials, events, or the environment, to detect or assess problems.

Specific Tasks

Occupation Specific Tasks:

- Adjust bolts, clamps, stops, guides, and table angles and heights, using hand tools.
- Adjust saw blades, using wrenches and rulers, or by turning handwheels or pressing pedals, levers, or panel buttons.
- Clear machine jams, using hand tools.
- Count, sort, and stack finished workpieces.
- Cut grooves, bevels, and miters, saw curved or irregular designs, and sever or shape metals, according to specifications or work orders.
- Dispose of waste material after completing work assignments.
- Examine blueprints, drawings, work orders, or patterns to determine equipment set-up and selection details, procedures to be used, and dimensions of final products.
- Examine logs or lumber in order to plan the best cuts.
- Guide workpieces against saws, saw over workpieces by hand, or operate automatic feeding devices to guide cuts.

parts where needed.

- Establish work procedures for fabricating new structural products, using a variety of metalworking machines.
- Evaluate experimental procedures, and recommend changes or modifications for improved efficiency and adaptability to setup and production.
- Fit and assemble parts to make or repair machine tools.
- Install experimental parts and assemblies such as hydraulic systems, electrical wiring, lubricants, and batteries into machines and mechanisms.
- Install repaired parts into equipment, or install new equipment.
- Lay out, measure, and mark metal stock to display placement of cuts.
- Machine parts to specifications using machine tools such as lathes, milling machines, shapers, or grinders.
- Maintain industrial machines, applying knowledge of mechanics, shop mathematics, metal properties, layout, and machining procedures.
- Measure, examine, and test completed units to detect defects and ensure conformance to specifications, using precision instruments such as micrometers.
- Monitor the feed and speed of machines during the machining process.
- Observe and listen to operating machines or equipment to diagnose machine malfunctions and to determine need for adjustments or repairs.
- Operate equipment to verify operational efficiency.
- Position and fasten work pieces.
- Prepare working sketches for the illustration of product appearance.
- Program computers and electronic instruments such as numerically controlled machine tools.
- Select the appropriate tools, machines, and materials to be used in preparation of machinery work.
- Set controls to regulate machining, or enter commands to retrieve, input, or edit computerized machine control media.
- Set up and operate metalworking, brazing, heat-treating, welding, and cutting equipment.
- Set up, adjust, and operate all of the basic machine tools and many specialized or advanced variation tools to perform precision machining operations.
- Study sample parts, blueprints, drawings, and engineering information to determine methods and sequences of operations needed to fabricate products, and determine product dimensions and tolerances.
- Support metalworking projects from

- Inspect and measure workpieces to mark for cuts and to verify the accuracy of cuts, using rulers, squares, or caliper rules.
- Inspect stock for imperfections and to estimate grades or qualities of stock or workpieces.
- Lubricate and clean machines, using wrenches, grease guns, and solvents.
- Measure and mark stock for cuts.
- Monitor sawing machines, adjusting speed and tension and clearing jams to ensure proper operation.
- Mount and bolt sawing blades or attachments to machine shafts.
- Operate panelboards of saw and conveyor systems to move stock through processes, and to cut stock to specified dimensions.
- Position and clamp stock on tables, conveyors, or carriages, using hoists, guides, stops, dogs, wedges, and wrenches.
- Pull tables back against stops, and depress pedals to advance cutterheads that shape stock ends.
- Select saw blades, types and grades of stock, and cutting procedures to be used, according to work orders or supervisors' instructions.
- Set up, operate, or tend saws and machines that cut or trim wood to specified dimensions, such as circular saws, band saws, multiple-blade sawing machines, scroll saws, ripsaws, and crozer machines.
- Sharpen blades or replace defective or worn blades and bands, using hand tools.
- Trim lumber to straighten rough edges and remove defects, using circular saws.
- Unclamp and remove finished workpieces from tables.
- Unload and roll logs from trucks to sawmill decks or to carriages, or move logs in ponds, using pike poles.

Detailed Tasks

Detailed Work Activities:

- adjust production equipment/machinery setup
- clean equipment or machinery
- examine products or work to verify conformance to specifications
- fell or buck trees
- grade, classify, or sort products according to specifications
- inspect machinery or equipment to determine adjustments or repairs needed
- install equipment or attachments on machinery or related structures
- load or unload material or workpiece into machinery

planning and fabrication through assembly, inspection, and testing, using knowledge of machine functions, metal properties and mathematics.

- Test experimental models under simulated operating conditions for such purposes as development, standardization, and feasibility of design.

Detailed Tasks

Detailed Work Activities:

- adjust production equipment/machinery setup
- advise clients or customers
- confer with engineering, technical or manufacturing personnel
- design tools or mechanical devices
- determine tasks needed to complete machined products
- examine products or work to verify conformance to specifications
- fabricate, assemble, or disassemble manufactured products by hand
- follow statistical process control procedures
- identify base metals for welding
- install equipment or attachments on machinery or related structures
- lay out machining, welding or precision assembly projects
- load or unload material or workpiece into machinery
- maintain or repair industrial or related equipment/machinery
- maintain welding machines or equipment
- monitor production machinery/equipment operation to detect problems
- move or fit heavy objects
- operate metal or plastic fabricating equipment/machinery
- perform safety inspections in manufacturing or industrial setting
- program computer numerical controlled machines
- read blueprints
- read specifications
- read technical drawings
- recognize characteristics of alloys
- recognize characteristics of metals
- set up and operate variety of machine tools
- set up computer numerical control machines
- set up production equipment or machinery
- solve machine tool problems
- understand machine setup instructions
- understand technical operating, service or repair manuals
- load, unload, or stack containers, materials, or products
- maintain consistent production quality
- measure, weigh, or count products or materials
- move or fit heavy objects
- operate hoist, winch, or hydraulic boom
- operate woodworking equipment/machinery
- read blueprints
- read specifications
- read technical drawings
- read work order, instructions, formulas, or processing charts
- recognize wood species characteristics
- set up production equipment or machinery
- sort manufacturing materials or products
- understand technical operating, service or repair manuals
- use chain saws
- use fire suppression equipment
- use hand or power tools
- use precision measuring tools or equipment

Technology - Examples

- use arc welding equipment
- use drafting or mechanical drawing techniques
- use hand or power tools
- use knowledge of fire suppression methods in industrial emergencies
- use knowledge of metric system
- use machining practices
- use non-destructive test equipment
- use precision measuring tools or equipment
- use robotics systems technology
- use technical information in manufacturing or industrial activities
- use x-ray or magnetic inspection techniques
- weld together metal parts, components, or structures

Technology - Examples

Analytical or scientific software

- Armchair Machinist software
- CNC Consulting Machinists' Calculator
- EditCNC software
- Kentech Kipware Software
- Kentech Trig Kalculator

Computer aided design CAD software

- Autodesk AutoCAD software
- Computer aided design CAD software

Computer aided manufacturing CAM software

- CNC Mastercam
- CNC TurboCAD/CAM
- Computer aided manufacturing CAM software
- JETCAM software

Electronic mail software

- Microsoft Outlook

Facilities management software

- Faster Fleet Management software

Industrial control software

- Pro CNC software

Office suite software

- Microsoft Office

Project management software

- Kentech Kipware PLN

- Kentech Kipware QTE
- Kentech Kipware TRK

Spreadsheet software

- Microsoft Excel

Word processing software

- Microsoft Word

Tools - Examples

- Adjustable wrenches
- Anvils
- Grinding wheel arbors
- Bandsaws
- Grinding dogs
- Milling vises
- Chamfer tools
- Jointers
- Torches
- Boring bars
- Broachers
- Calipers
- Chucks
- Cold chisels
- Combination wrenches
- Deburring tools
- Desktop computers
- Center drills
- Side cutting pliers
- Angled feeler gauges
- Files
- Forklifts
- Marking blocks
- Brazing equipment
- Angle plates
- Shapers

- Crankshaft grinders
- Ball peen hammers
- Clamps
- Gauges
- Hex keys
- Edge finders
- Hydraulic presses
- Ladders
- Laser printers
- Breaker lathes
- Spirit levels
- Channel lock pliers
- Magnetic retrievers
- Microscopes
- Rubber mallets
- Metal inert gas MIG welders
- Prick punches
- Inside micrometers
- 3-axis computerized numerical control CNC machines
- Milling machines
- Needlenose pliers
- Personal computers
- Personal digital assistants PDA
- Pipe wrenches
- Screw pitch gauges
- Planers
- Plasma welders
- Platforms
- Sandblasters
- Buffers
- Chippers
- Combination drills

- Cylindrical grinders
- Sanders
- Cold saws
- Vernier bevel protractors
- Pry bars
- Putty knives
- Ratchet sets
- Reamers
- Resurfacing machines
- Welding lenses
- Hacksaws
- Phillips head screwdrivers
- Scribers
- Cylinder honers
- Metal shears
- Shims
- Machine shop rigging equipment
- Socket sets
- Soldering equipment
- Machinists' squares
- Steel rules
- Swaging equipment
- Taps
- Thread gauges
- Threading machines
- Pipe threaders
- Aviation snips
- Tongs
- Bending machines
- Tungsten inert gas TIG welding equipment
- Radial drills
- Utility knives

- Steel wedges
- Arc welders
- Welding shields
- Metal spray equipment
- Cranes
- Arbor presses

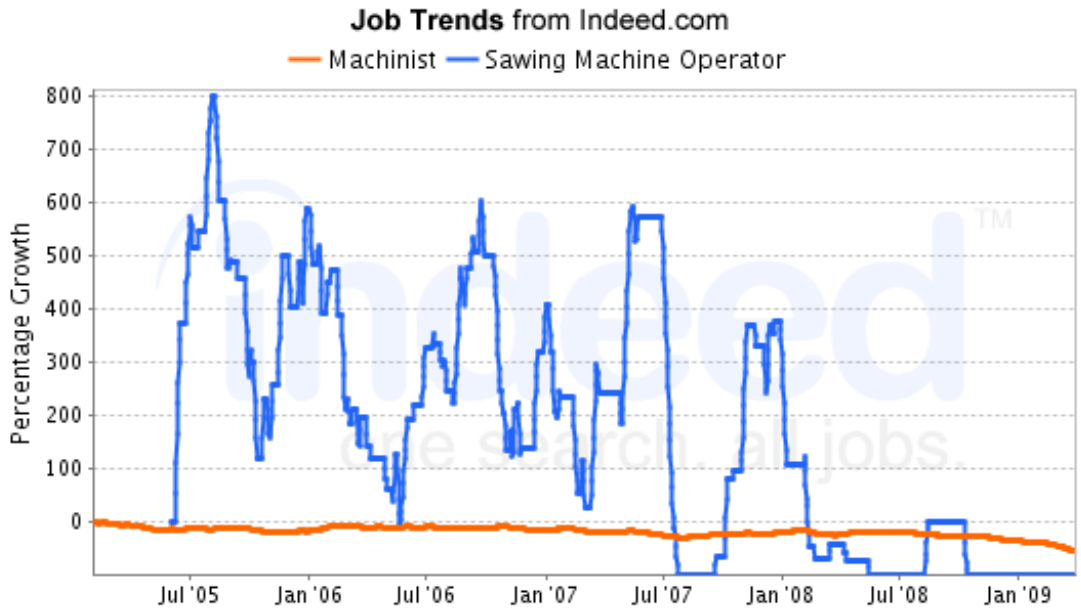
Labor Market Comparison

Description	Machinists	Sawing Machine Setters, Operators, and Tenders, Wood	Difference
Median Wage	$ 41,560	$ 24,790	$(16,770)
10th Percentile Wage	$ 26,250	$ 18,890	$(7,360)
25th Percentile Wage	N/A	N/A	N/A
75th Percentile Wage	$ 48,290	$ 29,970	$(18,320)
90th Percentile Wage	$ 56,030	$ 35,380	$(20,650)
Mean Wage	$ 41,780	$ 25,920	$(15,860)
Total Employment - 2007	1,860	700	-1,160
Employment Base - 2006	1,832	765	-1,067
Projected Employment - 2016	1,905	706	-1,199
Projected Job Growth - 2006-2016	4.0 %	-7.7 %	-11.7 %
Projected Annual Openings - 2006-2016	35	15	-20

National Job Posting Trends

Trend for Machinists

Trend for Sawing Machine Setters, Operators, and Tenders, Wood



Data from Indeed

Recommended Programs

Cabinet Maker and Millworker

Cabinetmaking and Millwork/Millwright. A program that prepares individuals to apply technical knowledge and skills to set up, operate and repair industrial woodworking machinery, and to use such machinery to design and fabricate wooden components and complete articles.

No schools available for the program

Maine Statewide Promotion Opportunities for Machinists

O*NET Code	Title	Grand TORQ	Job Zone	Employment	Median Wage	Difference	Growth	Annual Job Openings
51-4041.00	Machinists	100	3	1,860	$41,560.00	$0.00	4%	35
51-4111.00	Tool and Die Makers	85	3	160	$51,670.00	$10,110.00	-11%	2
51-4192.00	Lay-Out Workers, Metal and Plastic	82	2	180	$43,870.00	$2,310.00	-24%	3
51-4012.00	Numerical Tool and Process Control Programmers	79	3	60	$43,530.00	$1,970.00	21%	2
49-2094.00	Electrical and Electronics Repairers, Commercial and Industrial Equipment	78	3	440	$49,450.00	$7,890.00	-19%	15
17-3023.01	Electronics Engineering Technicians	76	3	430	$45,180.00	$3,620.00	-20%	9

17-3023.03	Electrical Engineering Technicians	75	3	430	$45,180.00	$3,620.00	-20%	9
49-2095.00	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	75	5	20	$60,790.00	$19,230.00	5%	1
49-9012.00	Control and Valve Installers and Repairers, Except Mechanical Door	74	3	170	$47,860.00	$6,300.00	-9%	3
49-9061.00	Camera and Photographic Equipment Repairers	73	3	0	$44,660.00	$3,100.00	0%	0
49-3011.00	Aircraft Mechanics and Service Technicians	73	3	210	$44,280.00	$2,720.00	-2%	2
51-8013.00	Power Plant Operators	73	3	480	$50,240.00	$8,680.00	10%	21
17-3027.00	Mechanical Engineering Technicians	72	3	130	$44,890.00	$3,330.00	2%	3
53-6051.07	Transportation Vehicle, Equipment and Systems Inspectors, Except Aviation	72	3	60	$42,890.00	$1,330.00	5%	2
47-4021.00	Elevator Installers and Repairers	72	4	0	$50,960.00	$9,400.00	0%	0

Top Industries for Sawing Machine Setters, Operators, and Tenders, Wood

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Other wood product manufacturing	321900	26.55%	17,269	17,901	3.66%
Sawmills and wood preservation	321100	25.90%	16,845	14,856	-11.81%
Veneer, plywood, and engineered wood product manufacturing	321200	12.25%	7,969	9,546	19.78%
Self-employed workers, primary job	000601	7.11%	4,624	5,419	17.19%
Wood kitchen cabinet and countertop manufacturing	337110	5.97%	3,881	4,726	21.79%
Household and institutional furniture manufacturing	337120	5.22%	3,395	2,842	-16.30%
Office furniture (including fixtures) manufacturing	337200	3.32%	2,159	2,233	3.43%
Lumber and other construction materials merchant wholesalers	423300	2.03%	1,317	1,664	26.35%

Building material and supplies dealers	444100	1.42%	922	1,296	40.57%
Employment services	561300	1.09%	708	985	39.22%
Self-employed workers, secondary job	000602	0.90%	584	640	9.51%
Motor vehicle parts manufacturing	336300	0.25%	163	143	-12.42%
Motor vehicle body and trailer manufacturing	336200	0.24%	157	169	7.63%
Management of companies and enterprises	551100	0.12%	80	102	26.80%

Top Industries for Machinists

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Machine shops	332710	18.50%	73,341	63,702	-13.14%
Metalworking machinery manufacturing	333500	6.55%	25,986	22,339	-14.03%
Motor vehicle parts manufacturing	336300	6.18%	24,524	20,501	-16.40%
Employment services	561300	6.04%	23,956	31,835	32.89%
Aerospace product and parts manufacturing	336400	4.53%	17,976	19,223	6.94%
Other general purpose machinery manufacturing	333900	4.05%	16,052	15,215	-5.21%
Other fabricated metal product manufacturing	332900	3.34%	13,262	12,338	-6.96%
Turned product and screw, nut, and bolt manufacturing	332720	2.38%	9,427	7,174	-23.90%
Industrial machinery manufacturing	333200	2.04%	8,073	6,944	-13.98%
Navigational, measuring, electromedical, and control instruments manufacturing	334500	1.97%	7,831	7,872	0.53%
Plastics product manufacturing	326100	1.87%	7,414	8,252	11.30%
Engine, turbine, and power transmission equipment manufacturing	333600	1.70%	6,751	5,949	-11.87%
Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance	811300	1.55%	6,143	6,826	11.11%
Architectural and structural metals manufacturing	332300	1.55%	6,163	6,912	12.14%
Self-employed workers, primary job	000601	1.47%	5,836	6,528	11.86%

